

We claim:

- 1 1. A tailored artificial conduit comprising,
2 matrix material impregnated with a polymeric resin, wherein said polymeric resin is
3 cured by exposure to radiant energy.
- 1 2. The tailored artificial conduit of claim 1, wherein said tailored artificial conduit is a stent.
- 1 3. The tailored artificial conduit of claim 1, wherein said tailored artificial conduit is a vascular
2 prosthesis.
- 1 4. The tailored artificial conduit of claim 1 wherein said matrix material is selected from the
2 group consisting of fiberglass, nylon, polyester, polyurethanes, polytetrafluoroethylene, cotton
3 and silk.
- 1 5. The tailored artificial conduit of claim 1 wherein said light-cured polymeric resin comprises a
2 principal monomer, a viscosity modifier, and a photoinitiator.
- 1 6. The tailored artificial conduit of claim 5 further comprising an activator.
- 1 7. The tailored artificial conduit of claim 5 wherein said principal monomer is selected from the
2 group consisting of bis-phenol A diglycidyl methacrylate and acrylate monomers.
- 1 8. The tailored artificial conduit of claim 5 wherein said viscosity modifier is selected from the
2 group consisting of triethylene glycol dimethacrylate, alkoxylated cyclohexane dimethanol
3 diacrylate and difunctional monomers.

1 9. The tailored artificial conduit of claim 5 wherein said photoinitiator is selected from the
2 group consisting of camphorquinone, ketones, thioxanthone and 3-ketocoumarins.

1 10. The tailored artificial conduit of claim 6 wherein said activator is selected from the group
2 consisting of N, N dimethyl-p-toluidine, amines, and tertiary amines.

1 11. The tailored artificial conduit of claim 1 wherein said radiant energy is 470 nanometers in
2 wavelength.

1 12. The tailored artificial conduit of claim 1 further comprising a biologically active agent.

1 13. The tailored artificial conduit of claim 12 wherein said biologically active agent is selected
2 from the group consisting of antibiotics, anti-rejection drugs, anti-coagulants, anti-inflammatory
3 agents, growth factors, and chemotactic agents.

1 14. A method of fabricating a tailored artificial conduit comprising the steps of
2 impregnating a matrix with uncured photoactivatable resin in order to form impregnated
3 matrix material, wherein said photoactivatable resin is susceptible to curing by exposure to
4 visible light,
5 positioning said impregnated matrix material at a physiological site of interest, and
6 exposing said impregnated matrix material to radiant energy, wherein said step of
7 exposing cures said uncured photoactivatable resin within said matrix, thereby forming a
8 tailored artificial conduit.

1 15. The method of claim 14 further comprising the step of forming said impregnated matrix
2 material into a conduit at said site of interest, wherein said conduit conforms to the natural
3 shape of said site of interest.

- 1 16. The method of claim 14 wherein said tailored artificial conduit functions as a stent.
- 1 17. The method of claim 14 wherein said tailored artificial conduit functions as a vascular
2 prosthesis.
- 1 18. The method of claim 14 wherein said matrix is selected from the group consisting of
2 fiberglass, nylon, polyester, polyurethane, polytetrafluoroethylene, cotton and silk.
- 1 19. The method of claim 14 wherein said uncured photoactivatable resin comprises a principal
2 monomer, a viscosity modifier, and a photoinitiator.
- 1 20. The method of claim 19 further comprising an activator.
- 1 21. The method of claim 19 wherein said principal monomer is selected from the group
2 consisting of bis-phenol A diglycidyl methacrylate and acrylate monomers.
- 1 22. The method of claim 19 wherein said viscosity modifier is selected from the group
2 consisting of triethylene glycol dimethacrylate, alkoxylated cyclohexane dimethanol diacrylate
3 and difunctional monomers.
- 1 23. The method of claim 19 wherein said photoinitiator is selected from the group consisting of
2 camphorquinone, ketones, thioxanthone and 3-ketocoumarins.
- 1 24. The method of claim 20 wherein said activator is selected from the group consisting of N, N
2 dimethyl-p-toluidine, amines and tertiary amines.
- 1 25. The method of claim 14 wherein said radiant energy is of a 470 nm wavelength.